

CLAIMS

1. A paramyxoviral vector encoding a polypeptide that comprises an antibody variable region.

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2. The viral vector of claim 1, wherein the paramyxovirus is a Sendai virus.

10 3. The viral vector of claim 1, wherein the polypeptide is a secretory type.

15 4. The paramyxoviral vector of claim 1, wherein the vector encodes a polypeptide comprising an antibody H chain variable region, and a polypeptide comprising an antibody L chain variable region.

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5. The viral vector of claim 4, wherein the polypeptide comprising an antibody H chain variable region and the polypeptide comprising an antibody L chain variable region are linked to each other to form a Fab.

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6. The viral vector of claim 5, wherein at least one of the antibody variable regions is derived from an antibody against a ligand or a receptor.

25 7. The viral vector of claim 6, wherein the antibody binds to a protein that inhibits the survival or differentiation of neurons or axonal outgrowth.

30 8. The viral vector of claim 7, wherein the antibody is an antibody against a NOGO.

9. The viral vector of claim 6, wherein the antibody is an antibody against a receptor associated with immune signal transduction, or a ligand thereof.

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10. The vector of claim 9, wherein the antibody is an antibody against

a receptor expressed on the surface of a T cell or antigen-presenting cell, or a ligand thereof.

11. The vector of claim 10, wherein the receptor or ligand thereof
5 is a signal transduction molecule of a costimulatory signal of a T cell or antigen-presenting cell.

12. The vector of claim 11, wherein the signal transduction molecule
10 is a molecule selected from the group consisting of CD28, CD80, CD86, LFA-1, ICAM-1 (CD54), PD-1, and ICOS.

13. The vector of claim 9, wherein the vector further encodes another foreign gene.

15 14. A method for manufacturing a recombinant polypeptide comprising an antibody variable region, wherein the method comprises the steps of:

(a) transducing the viral vector of claim 1 to a mammalian cell; and
20 (b) recovering a produced polypeptide from the mammalian cell transduced with the vector, or the culture supernatant thereof.

15. A polypeptide produced by the method of claim 14.

25 16. A method for promoting nerve formation, wherein the method comprises the step of delivering the vector of claim 7 to a site in which the nerve formation is required.

30 17. A method for treating a spinal cord lesion, wherein the method comprises the step of delivering the vector of claim 7 to the lesion site.

18. A method for suppressing an immune reaction, wherein the method comprises the step of administering the vector of claim 9.

35 19. The method of claim 18, wherein the method further comprises the step of administering an antibody against a receptor associated with

immune signal transduction, or a ligand thereof, or CTLA-4 or a fragment thereof.

20. A method for increasing the expression of a gene from a vector
5 by prolonging gene expression from the vector, and/or by the repeated administration of the vector, wherein the method comprises the step of administering the vector of claim 9.

21. The method of claim 20, wherein the method further comprises the
10 step of administering an antibody against a receptor associated with immune signal transduction, or a ligand thereof, or CTLA-4 or a fragment thereof.

22. A composition of a vector with elevated durability of expression,
15 comprising the vector of claim 9 and a pharmaceutically acceptable carrier.

23. A gene transduction kit, comprising (a) the vector of claim 9 and (b) an antibody against a receptor associated with immune signal
20 transduction, or a ligand thereof, or CTLA-4 or a fragment thereof.